

Erratum: Global polarization measurement in Au + Au collisions [Phys. Rev. C 76, 024915 (2007)]

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The direction of the total angular momentum of a collision between two nuclei is

$$\hat{L} = \hat{b} \times \hat{p}_{\text{beam}},$$

where \hat{b} and \hat{p}_{beam} are unit vectors in the directions of the impact parameter and the momentum of one of the incoming nuclei, respectively. It is important to maintain a consistent convention when defining the vectors in this equation. In particular, \hat{b} is the perpendicular (to \hat{p}_{beam}) component of the separation vector between the centers of the two nuclei before they collide. This separation vector points *from* the center of the nucleus defined to travel in the $-\hat{p}_{\text{beam}}$ direction *towards* the center of the nucleus traveling in the $+\hat{p}_{\text{beam}}$ direction. The opposite definition was used in the original paper.

In Fig. 1, the angular momentum vector \vec{L} should point in the direction opposite to what is shown, and Eq. (3) should read

$$P_H = -\frac{8}{\pi\alpha_H} \langle \sin(\phi_p^* - \Psi_{RP}) \rangle$$

Here, α_H is the Λ decay parameter, and Ψ_{RP} is the reaction plane angle, defined as the azimuthal angle of \hat{b} . The azimuthal angle of the decay proton's momentum in the Λ frame is ϕ_p^* .

All reported polarization data shown in Figs. 3–8 are plotted with the wrong signs.

The conclusion, that the global polarization of Λ and $\bar{\Lambda}$ in Au + Au collisions at $\sqrt{s_{NN}} = 62.4$ and 200 GeV is $|P_{\Lambda, \bar{\Lambda}}| < 0.02$, remains the same.